

Notice of Allowability

Application No.

10/710,175

Examiner

Linh M. Nguyen

Applicant(s)

KANG ET AL.

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2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 08/21/06.
2. ☒ The allowed claim(s) is/are 14-17,20-25 and 27-68.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

This is a reply to the Applicant's amendment submitted on 08/21/2006. By virtue of this amendment, claims 1-13, 18-19 and 26 are cancelled; claims 53-68 are newly added; and thus, claims 14-17, 20-25 and 27-68 are currently presented in the instant application.

Allowable Subject Matter

1. Claims 14-17, 20-25 and 27-68 are allowed.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

The closest prior art fails to disclose or fairly suggest:

a) An apparatus for adjusting a phase between two input signals, in which the first input and the second input are differential signals, in combination with the remaining claimed limitations as called for in claims 14 and 25;

b) An apparatus for controlling at least one of a first and a second adjusting circuits, in which the phase difference between the *in-phase* signal and the *quadrature-phase* signal reaches a predetermined condition, in combination with the remaining limitations, as called for in claim 33;

c) An apparatus, in which by controlling at least one of a first and a second adjusting circuits, the phase difference between the *positive* signal and the *negative* signal reaches a predetermined condition, in combination with the remaining limitations, as called for in claim 34;

d) A method, in which the step of adjusting at least one of a first variable capacitor and a second variable capacitor by respectively utilizing a first control voltage generated from the first

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digital value and a second control voltage generated from the second digital value, to make the phase difference between the *in-phase* signal and the *quadrature-phase* signal reach a predetermined condition, in combination with the remaining limitations, as called for in claim 35;

e) A method, in which the step of adjusting at least one of a first variable capacitor and a second variable capacitor by respectively utilizing a first control voltage generated from the first digital value and a second control voltage generated from the second digital value, to make the phase difference between the *positive* signal and the *negative* signal reach a predetermined condition, in combination with the remaining limitations, as called for in claim 36;

f) An apparatus for adjusting a phase between two input signals, in which by controlling at least one of the first and second digital values, the phase difference between the first input signal and the second input signal is adjusted, and the first input signal and the second input signal are an in-phase and a quadrature-phase signal, respectively, in combination with the remaining claimed limitations, as called for in claim 53; and

g) A method for adjusting a phase between two input signals, in which the first input signal and the second input signal are an in-phase and a quadrature-phase signal, in combination with the remaining claimed limitations, as called for in claim 63.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Inquiry

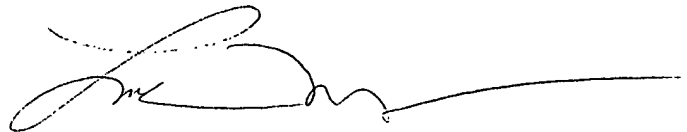
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (571) 272-1749. The examiner can normally be reached on Alternate Fri, Monday - Thursday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh M. Nguyen
Primary Examiner
Art Unit 2816

LMN

A handwritten signature in black ink, appearing to be 'Linh M. Nguyen', with a long horizontal line extending to the right.